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| EXAMINER | |
|---|---|
| LOPEZ, AMADEUS SEBASTIAN | |
| **ART UNIT** | **PAPER NUMBER** |
| 3743 | |

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/600,873 | SUN, EN-JANG | |
| | Examiner | Art Unit | |
| | Amadeus S. Lopez | 3743 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1 and 3-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Allowable Subject Matter*

1. The indicated allowability of claims 2 and 8-12 are withdrawn in view of the newly discovered reference(s) to US Patent No. 4949714 to Orr and US Patent No. 6971985. Rejections based on the newly cited reference(s) follow.

### *Specification*

2. The disclosure is objected to because of the following informalities: On page 6 of the specification in the third paragraph, the applicant refers to a Fig. 5 when in fact there are only 4 figures. Please delete "Fig. 5" in the specification and replace it with -- Fig. 4 --. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1, 3, 7-9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4949714 to Orr in view of U.S. Patent No. 6,966,937 to Yachi et al. in further view of U.S. Patent No. 6,119,689 to Korman.**

3. **With regards to claim 1**, what is disclosed and shown by Orr in Figs. 1-4 is a personal isolation apparatus comprising: a hood (10) for covering a patient's body; a filter device (20) connected to the hood having an exhaust fan (vacuum impeller 80) secured therein and having a filter (72) operatively filtering aerosolized medicament laden in the air streamflow as sucked from the hood by said exhaust fan; and said hood including a base portion (inherent that 58 is either a bed or a base portion that can be placed on a bed) laid on a bed, an inlet port (44), a rear plate (30) opposite to the inlet port (44) formed on a rear closed end of the hood adjacent to a patient's head (Fig. 1 and 2), a connector (ports at 60 and 62) protruding rearwardly (via tubes 18 leading to the back of the hood to the filter device 20) from the hood to be detachably connected to a filter device (20) and a rear opening defined within the connector to be fluidically communicated with the filter device. What is not disclosed by Orr is utilizing a plurality of filters operatively filtering SARS virus and microorganisms as laden in the air streamflow as sucked from the hood by said exhaust fan. What is also not disclosed is an ultraviolet sterilizer including at least an ultraviolet lamp and formed between the hood and the filter device and operatively killing the SARS virus and microorganisms as laden in the air streamflow as sucked from the hood; and an inlet port formed in an open front end of the hood adjacent to a patient's chest and waist for entering inlet air into the

hood (inherent that if cover 16 were not attached to the open front of the apparatus as shown in Fig. 1-3, then air would enter through the front opening and into the hood), and a connector connected with the ultraviolet sterilizer and the filer device. What Yachi et al. disclose as shown in figure 1 and 25, is a patient isolation unit that contains an ultraviolet lamp (31) that is used to sterilize germs, bacteria, and other microorganisms, which would include the SARS virus and a rear opening fluidically communicated with the UV sterilizer and the filter device. The patient isolation unit also contains a HEPA filter (32) and an exhaust fan (33), which are both shown in figure 25. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the medical hood of Orr to replace the filter/blower unit (20) with that of Yachi et al. because it contains an ultraviolet sterilizer including at least an ultraviolet lamp (31) and formed between the hood and the filter device (32) that is operatively capable of killing the SARS virus and microorganisms as laden in the air streamflow as sucked from the hood; What is disclosed by Orr is a medical hood that covers the chest and head portion of the patient with the inlet at 44. After reviewing the specification, the examiner has concluded that the applicant never establishes any criticality for having the inlet formed at an open front end of the hood adjacent to a patient's waist and chest. The applicant even discloses alternative embodiments of this configuration with the hood covering the entire body of the patient and air coming into the hood through inlet openings in the hood. Therefore it would have been an obvious matter of design choice to have the inlets in an open front of the hood, or in any other configuration that would be effective and sufficient enough to bring in air into the unit. In U.S. Patent No.

6,119,689, Korman discloses a personal air filtering and delivery system that utilizes a plurality of filters to purify the air to be sent to the patient. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Yachi et al. to utilize a plurality of filters instead of just one HEPA filter because more filters would maximize the purification of the air to be exhausted into the atmosphere and prevent the spread of unsterilized microorganisms.

**With regards to claim 3,** what is taught and shown by Orr in view of Yachi et al in further view of Korman is a personal isolation apparatus with all the limitations of claim 1. What is further disclosed and shown by Yachi et al in Figures 1 and 25 is a personal isolation apparatus wherein said filter device includes: a duct (4) connected to the hood (3) and an exhaust duct (5b) through a UV sterilizer in the form of a UV lamp (31), a primary HEPA filter (32) secured at a suction port of the duct for filtering off small particles including microorganisms, and an exhaust fan (33) formed in the duct at a downstream of the filter device for suctioning inlet air from the isolation unit through the UV sterilizer and the filters in the duct and for discharging an outlet air through an exhaust port (5c) at the end of the duct. The filter device housing (5a) is considered a duct that is connected to the envelope or hood by exhaust duct (5b) and duct (4). What Korman (6,119,689) discloses is a personal air filtering and delivery system that utilizes a plurality of filters to purify air to be provided to a patient. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the isolation hood apparatus as taught by Orr in view of Yachi et al to utilize two or more

filters as taught by Korman to maximize the purification of the air to be exhausted from the apparatus and prevent the spread of bacteria and other unsterilized microorganisms.

4. **With regards to claim 7**, what is taught by Orr in view of Yachi et al in view of Korman is a medical isolation hood with all the limitations of claim 3 and 7. What is claimed in claim 7 is "a personal isolation apparatus according to claim 5, wherein said primary and secondary filters are detachable from the duct of the filter device for a safe and hygienic disposal of the filters when used without causing infection and contamination to the environment." In column 4 in lines 66 and 67 and in column 5 in lines 1-17, Korman states that the filters utilized in his personal air filtering and delivery systems "may be easily removed and replaced by removing cover 40." Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the personal isolation unit disclosed by Orr in view of Yachi et al in further view of Korman to make the filters within the apparatus to be removable as taught by Korman because once the filters are saturated with contaminants and other particles they lose their efficiency and will begin to allow unwanted particles into the atmosphere. Also if the filters are removable, they can be cleaned so that they may be reused later, or they may be disposed of properly to prevent infectious bacteria and virus to be released into the environment.

5. **With regards to claim 8,** what is taught by Orr in view of Yachi et al in view of Korman is a medical isolation hood with all the limitations of claim 3 and 8. What is taught by Yachi et al is a patient isolation unit with an ultraviolet sterilizer that includes:

at least one ultraviolet lamp connected between the hood (3) and air duct of the filter device (Fig. 25; duct 5b and housing 5a) for irradiation of UV light to the inlet air entering an air passage defined in the sterilizer and to the primary filter (32; Fig. 25; Col. 6, lines 18-49), and a reflector (Casing 5a and Duct 5b; both are disclosed to be made of stainless steel which is "finished with a mirror-finished inner surface so that UV rays radiated from the UV lamp 31 are equally reflected"; Col. 6, lines 43-45) formed on a backside of the UV lamp for reflecting UV light as emitted from the UV lamp towards the air passage and towards the primary filter (32) of the filter device. What is not disclosed by Orr in view of Yachi et al in further view of Korman is that the UV lamp is secured in a lamp cover. After reviewing the specification, the examiner has concluded that the applicant never establishes any criticality for securing the lamp into a lamp cover. Therefore it would have been an obvious matter of design choice to secure the UV lamp in a cover or other securing means that would prove effective in securing the UV lamp within the duct of the filter device.

6. **With regards to claim 9,** what is taught by Orr in view of Yachi et al in further view of Korman is a personal isolation hood device with all the limitations of claim 8 and 9 with the exception of having the UV lamp secured in a lamp cover that is integrally formed with the duct of the filter device. After reviewing the specification, the examiner has concluded that the applicant never establishes any criticality for securing the lamp into a lamp cover integrally formed with the duct of the filter device. Therefore it would have been an obvious matter of design choice to secure the UV lamp in a cover or other

securing means that would prove effective in securing the UV lamp within the duct of the filter device.

7. **With regards to claim 11**, what is taught and shown by Orr in view of Yachi et al in further view of Korman is a patient isolation unit with all the limitations of claim 11 with the exception of an auxiliary hood which is connected to said inlet port of the hood to cover a lower body portion of the patient to completely shield the patient within the hood and the auxiliary hood for preventing outward spreading of patient's droplets and virus as sprayed and released from the patient. What is taught by Korman is a canopy or hood 87 that covers a lower body portion of the patient to completely shield the patient within the hood for preventing outward spreading of patient's droplet(s) and virus as sprayed from the patient. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the personal isolation hood unit taught by Orr in view of Yachi et al. to include a hood that totally encapsulates the body to increase the effectiveness of the personal isolation unit and decrease the chance that germs and other unfiltered bacteria are released from the unit.

**8. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4949714 to Orr in view of U.S. Patent No. 6,966,937 to Yachi et al. in further view of U.S. Patent No. 6,119,689 to Korman in further view of US Patent No. 4,317,661 to Sasaoka et al.**

9. **With regards to claim 4,** what is taught and shown by Orr in view of Yachi et al in further view of Korman is a personal isolation device with all the limitations of claim 3 with the exception of wherein the primary filter is made of non-woven cloth for filter the

droplets as sprayed from the patient. What is taught and shown by Sasaoka et al. is an electric air cleaner disclosed within the specification in column 2 in lines 66-68 wherein Sasaoka recites that his dielectric filter is made of a non-woven cloth. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the medical hood taught by Orr in view of Yachi et al in further view of Korman to use a non-woven cloth material for the filter as taught by Sasaoka et al because it is well known in the art that non-woven cloth is an effective filter barrier element to many contaminants in the air.

10. **With regards to claim 5**, what is taught and shown by Orr in view of Yachi et al in further view of Korman is a personal isolation device with all the limitations of claim 3 and 5 with the exception of wherein the secondary filter is a high-efficiency particulate air filter made of non-woven cloth for removing micoparticles including SARS virus. What is disclosed by Orr is a medical hood wherein it is disclosed that the filter element within filter/vacuum device 20 could be a HEPA filter (Col. 7, lines 56-58). What is taught and shown by Sasaoka et al. is an electric air cleaner disclosed within the specification in column 2 in lines 66-68 wherein Sasaoka recites that his dielectric filter is made of a non-woven cloth. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the HEPA filter of Orr in view of Yachi et al in further view of Korman by utilizing a non-woven cloth as a filter element as taught by Sasaoka et al because it is well known in the art that non-woven cloth is an effective filter barrier element to many contaminants.

11. **What is claimed in claim 6** is " a personal isolation apparatus according to claim 5, wherein said secondary filter includes incorporation of activated carbon and virus-removing agent in the secondary filter." After reviewing the specification of the invention, the examiner has concluded that the applicant never expressed any criticality for incorporating both activated carbon and virus-removing agent in the secondary filter. The applicant recites on page 4 in lines 12 and 13 that "an activated carbon or other virus-removing agent may be incorporated in the secondary filter (23)." This statement by the applicant acknowledges that activated carbon is in fact a virus-removing agent and that either one could be used in the secondary filter, with no acknowledgment of using both within the filter. Also in U.S. Patent No. 6,119,689 Korman discloses a personal air filtering and delivery system that supplies purified air to a patient. As recited by Korman in claim 3, "what is claimed is: an air filtration device according to claim 2, wherein the prefilter means is an activated carbon felt material." Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the medical isolation hood taught by Orr in view of Yachi et al in further view of Korman to utilize activated carbon or any other virus-removing agent to remove any bacteria or virus that may have passed through the first or primary filter and the secondary filter to further improve the effectiveness of the purification system by preventing the release of dangerous microorganisms as taught by Korman.

**12. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4949714 to Orr in view of U.S. Patent No. 6,966,937 to Yachi et al. in further view of U.S. Patent No. 6,119,689 to Korman in further view of US**

**Patent No. as applied to claims 1 and 11 above, and further in view of US Patent No. 6971985 to Perlatti.**

**13. With regards to claim 10,** what is taught and shown by Orr in view of Yachi et al in further view of Korman is a patient isolation unit. What is further taught and shown by Orr in Fig. 1-3 is an isolation hood unit including an auxiliary cover (16) which is provided to further shield an upper body portion of the patient; said auxiliary cover having a rear portion thereof fastened to said inlet port of the hood and a front portion of the auxiliary cover flexibly and foldably fastened to a patient's chest or waist portion (Figs. 1 and 2; inherent that depending on patient size, the auxiliary cover can attach between the neck and waist). What is not disclosed by Orr in view of Yachi et al in further view of Korman is a personal isolation unit having a plurality of air inlet openings formed between the auxiliary cover and the patient. What is taught by Perlatti in Fig. 5 is a patient isolation hood with a plurality of inlet openings (142 and 144) formed around the patient (Col. 9, lines 27-36). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the personal isolation unit taught by Orr in view of Yachi in further view of Korman to include a plurality of inlet openings formed between the auxiliary cover (16) and the patient to provide numerous entries for air into the hood to provide sufficient ventilation for the patient to breathe comfortably.

**14. With regards to claim 12**, what is taught and shown by Orr in view of Yachi et al in further view of Korman is a patient isolation unit with all the limitations of claim 11 and 12 with the exception of wherein the auxiliary hood includes a plurality of ventilation

holes formed in the auxiliary hood to allow air to enter the auxiliary hood and the hoot to be breathed by the patient. What is taught by Perlatti in Fig. 5 is a patient isolation hood with a plurality of inlet openings (142 and 144) formed around the patient (Col. 9, lines 27-36). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the personal isolation unit taught by Orr in view of Yachi in further view of Korman to include a plurality of inlet openings formed between the auxiliary cover (16) and the patient to provide numerous entries for air into the hood to provide sufficient ventilation for the patient to breathe comfortably.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amadeus S. Lopez whose telephone number is (571) 272-7937. The examiner can normally be reached on Mon-Fri 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on (571) 272-4791. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amadeus S Lopez
Examiner
Art Unit 3743
May 15, 2006

ASL

Henry Bennett
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